faculty

NEWSLETTER

SIR GEORGE WILLIAMS UNIVERSITY

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Editorial Commentary

Apologia Pro Vita Sua

The Editor wishes to apologize to the members of the Faculty for the belatedness of this issue of the Faculty Newsletter. He had hoped to have had sufficient material submitted to him by the end of February to have been able to publish an issue by mid-March to be followed by still another issue by the end of the Winter Session.

While some contributors were kind enough to submit some material early enough, it was insufficient in volume to warrant publication by the mid-March target-date. Unfortunately, by the time the remainder came in, it was too late to 'prepare it, print it and publish it' without interfering too much with other work, particularly in the Printing Office where the pressure of the sheer volume of work to be accomplished within the last month of the Session, involving the massive job of exam-preparation which must take priority over all but the most essential other work, is simply staggering. The four young men in that Office are certainly some of the "unsung heroes" of our institution, putting in, as they do, many hours of over-time work in order that all may be accomplished insofar as time, space and industry will permit.

In order to remedy this situation, it is proposed to set up the following schedule of dates to be effective for the Winter Session, 1963-64:

Submission Date	Publication Date
September 1st	September 15th
October 15th	October 31st
December 1st	December 15th
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January 15th	January 31st
February 29th	March 15th
April 15th	April 30th

In short, it is hoped to double the number of issues from the present three to six. If this experiment should prove successful, it might be possible to publish on a monthly basis in 1964-65. Certainly, success or failure will depend directly on the willingness of staff-members to contribute the necessary material in the form of articles, reviews, poems, etc.

Therefore, once again, and despite the possibility of still further 'rude' remarks about editorial 'beggars', the Editor would solicit your co-operation and material bearing in mind the above-mentioned schedule of target-dates.

"In Memoriam"

It is now three months since the death of our beloved friend and colleague, Professor Philip T.R. Pugsley, but it is only fitting that this first opportunity to pay tribute to him and to his memory should be taken by one who was both and considered himself to have been most fortunate to have known him well for more than fifteen years.

Needless to say, his passing has saddened all of his friends and colleagues, both within the University, which he loved and served so well as Senior Professor of the Commerce Division, and without its walls where he was widely known and respected by members of the business community in which he worked as a Chartered Accountant. Too, his service as a member of City Council, his membership and high offices in the Junior Chamber of Commerce, in Kiwanis and other organizations and clubs, made him well and favourably known to a much larger circle of friends and acquaintances than is true of most of us.

Yet, much as he valued these other relationships, it was his connection with, and involvement in, Sir George that had become a chief concern in his life. It is only fair to say that he was responsible, with the able assistance of his full-time staff and the dozens of part-time lecturers whom he recruited, for the amazing growth of the Commerce Faculty which, in terms of course-offerings, numbers of students and quality of the degree, has become one of the largest and most important of the Faculties of Commerce in Canada.

So much so has been the appreciation of his invaluable contribution to this University that it has been decided to establish a Scholarship in his name to perpetuate the memory of the man and his work towards a still-greater Sir George.

It remains only to extend to his good wife and dear companion, and to his parents and relatives, the heartfelt sympathy of this academic community in which he was so important and valuable a member. May the knowledge that his passing is keenly felt by all who knew him serve to assuage their continuing sorrow for his untimely demise.

* * *

Only recently has the English Department suffered the loss of one of its valued members with the sudden death of Charles Mitchell who taught, for a number of years, on the part-time teaching-staff of English 211.0. Although not widely known to other staff outside the Department, those who knew him have testified to his ability as a teacher as will several generations of students who were privileged to be his students in this difficult and demanding course.

On behalf of the University as a whole, and the English Department in particular, it is only fitting that condolences be extended to his relatives and friends from the total academic community of which he was a part. His contribution to this institution will not soon be forgotten by staff and students alike.

* * *

Potpourri.

Principal Rae has recently announced that the final properties required to complete the site of the new building have now been acquired and that there is immediate prospect of final clearance from City Hall to enable the work to get underway in the fairly-near future. Too, consultations with the Provincial Government concerning financing have been continued with assurance being given of the continuing support necessary for the work to proceed in planned stages. After the initial set-backs encountered, this is good news indeed.

Members of the staff will be interested to know that two of the members of the Engineering Department have received invitations to participate in Summer Conferences in the U.S.A.

Mr. Graham Martin has been selected as a participant in the 1963 Summer Conference on Computer Science at the University of Oklahoma, at Norman, Okla., sponsored by the National Science Foundation.

Asst. Prof. M. Iqbal has been accepted to participate in the Summer Institute on Heat Transfer and Gas Dynamics, Oklahoma State University, Stillwater, Okla., sponsored by the National Science Foundation. Subsequently, Asst. Prof. Iqbal will travel to Japan, India, Pakistan, Greece and Germany before returning to Sir George in September.

On Wednesday, May 15th, the Association of Alumni held a banquet at the Windsor Hotel at which five Honorary Life Memberships were awarded to two staff-members and three members of the Board of Governors. The recipients were Prof. James Wynfred Bridges, Professor of Psychology, who has announced his retirement from the University; Professor Douglas Burns Clarke, Professor of Fine Arts and Vice-Principal of the University; J.H. Andrews, M.M., John B. Frosst, Ph.G., and Lt. Col. S.C. Holland, C.D., members of the Board of Governors.

Prof. Arthur Lermer has just returned from attending the 6th International Congress of Economics on "the Problems of National Economies" held in Rome, Italy, during April. He presented a paper to the conference which was very well-received according to another participant in the conference and further attested to by no-less-distinguished a personage than the Italian Minister of Finance in a personal letter of appreciation to him.

A major item of interest at the present time are the proposals for the re-organization of the Administrative and Academic structures of the University. Some time ago, these proposals were circulated to the staff for study and consideration at a meeting of all full-time staff held on Thursday, May 2nd. As well, they have been considered at a meeting of Departmental Chairmen, by various Administrative Committees and are currently under consideration by Faculty Council before being submitted to the Board of Governors with such changes or amendments as shall have been made as a result of such prior scrutiny.

If the Board approves of these recommended proposals, it is anticipated that they will be implemented as soon as possible, i.e., by next Fall or by January 1, 1964, if all preliminaries can be accomplished by that time. In addition to certain Administrative changes in the structure of the Vice-Principal's Office, the chief effect will be to create separate Faculties of Arts, Science, Commerce and Engineering, each with its own Dean and Faculty Council. It is proposed to make provision for the election of some members of these Councils from among the ranks of Associate Professors, Assistant Professors and Lecturers on the full-time staff of the University.

The present Faculty Council will be replaced by a University Council and there will be a new Board of Graduate Studies which will be responsible for all programmes of graduate study when these are established in the future.

If this reorganization is accomplished, it will do much to alleviate the present pressures which have built up as a result of the great increase in the number of students in recent years.

Work is already proceeding in the Annex which will result in an appreciable increase in class-rooms, office-space, etc. It is understood that the full-time staff of the Commerce Division will be moving to these new quarters as will the headquarters of the staff in English 201 and English 211 - Assoc. Prof. Tobias, Asst. Prof. Belkin and Company.

As reported in the previous issue, various University and Divisional Committees were hard at work during the Winter Session studying such matters as "Cultural Development", "Faculty Development", "Academic Planning", "Summer Sessions", "Awards", not to mention a variety of others related to the new building. Some of these have completed their work while others are "prorogued" to the next Winter Session. It is only fitting that tribute be paid to all of the many staff-members who participated in the work of these various Committees. They can be detected by the complete exhaustion evident in their person and manner - nervous tics, chain-smoking, addiction to coffee, an other-worldly glint in their eyes and not to mention an abominable disposition. Seriously, though, they are the people who will have been responsible for changes which will become apparent as time goes on - and one may hope that they will all be to the good.

One such change which resulted from the work of the Summer Session Committee has been the reduction in time of the current Summer Session. As everyone must be aware by now, it has been reduced from thirteen weeks to nine weeks in order to give more time between Sessions for both students and staff and to give the administrative services an opportunity to "clear the decks" for subsequent action. This is in the nature of an experiment and may be changed if it is found to be unsatisfactory.

A Poem of Thanks to Contributors

(and a word of friendly advice to
107 prospective co-editors of the
Faculty Newsletter)

"I offer thanks to those who heeded
When, on my bended knee, I pleaded
For something fit to publish here.
"Forsooth", I say to those who laughed
And said, "Why this man's daft
To think that we shall heed or hear".
I saw to them, "take care, take care
Or else I shall be forced to share
The onus of this burden dear
With those who scoffed and turned away"
(I wonder if they've heard of Rae)
(I'm sure that now my meaning's clear)"

'Anonymous'

Does Training in the Sciences lead to Agnosticism?

For some time now, I have pondered this question, and while I am still no closer to a definitive answer concerning it, I am prepared to do what we are taught to do in science, namely, consider the facts.

First let me relate, however, why I should be pondering such a question in the first place. Whenever I have expressed honest doubt about or questioned anything written in the Bible, I have invariably been admonished with a blanket condemnation "that you 'scientists' always think you know all the answers", and that "were it not for you 'scientists' the world wouldn't be in the mess that it is in."

Although I cannot presume to the lofty title of being a 'scientist', I am by training and inclination a student of the sciences -- and with no other qualification than the fact of my inclination towards the sciences, I am going to present my views on behalf of the scientists concerning the foregoing admonitions, and the initially - posed question.

Let me say right away, that no scientist, worthy of the name, believes that he knows all the answers. In fact, it is precisely for the opposite reason -- namely, that he does not know most of the answers, that he engages in the business of being a scientist. As a scientist, he must rigorously apply the scientific method to anything that comes within his experience. He must rigorously examine all things in the light of his awareness of these things, without bias -- accepting what is consistent with known facts, and rejecting what is inconsistent. This does not mean, however, that science is an inflexible, rigid discipline. Quite the opposite is true. While the methods of science are rigid and inflexible, scientific thought, ideas, concepts and hypothesis are being modified constantly -- but this modification is always done in the light of new facts. I have often heard it said "well you used to believe such and such, how come that you no longer believe this?" This is as it should be. In order to be truly scientific, one must be, as it were, constantly putting one's house in order. To do so requires a constant re-examining of the views which one has held on a particular point. Truth is the essence of science, and a truth must be true everywhere or it is not true anywhere. It is the constant searching after truth which tends to stigmatize scientists, in the eyes of so many people, as being necessarily atheists at the worst, or agnostics at the very least, and yet it is the searching out of truth that is the scientist's eternal task.

What about the other matter, namely, that "were it not for you 'scientists' the world wouldn't be in the mess that it is in?" This accusation is so widespread that I have noticed that at least two of my colleagues have seemingly embraced this idea, and have sought solace for their conscience by turning increasingly towards the Humanities. Now lest the Humanists misinterpret the intention of my remark, let me hasten to state that I have no quarrel with the Humanities. I believe that it is good for Man to have an introspective side. I think it is good for Man to ponder such abstractions as the Good, the True, the Beautiful. I think it is good for Man to ponder whence and whither. But contemplative, introspective activity alone, or the mouthing of idealistic platitudes, will not build bridges, harness hydroelectric power, conquer space and produce so many other advances in technology and public health, as to defy enumeration. No, it is not science which has the world in a mess. It is the misuse of science by non-scientists which has laid bare the threat that Man may destroy himself within our lifetime. The development, by scientists, of the capacity by Man to release thermonuclear energy, was not, in my view, intended by the scientists who worked on "the bomb" for use against Man. Rather, it is my conviction, that by developing such a horrendous article as an atomic bomb, they hoped that it would be possible to shock Man into accepting the ultimatum -- "Peace in the world or the world in pieces."

I tire of people who try to define the boundaries for scientific exploration. There is a great hue and cry in evidence today that here we are probing outer space, when we have so many problems which are begging for a solution here on earth. Why go to the Moon when we haven't conquered Cancer or heart disease? Why should we spend billions on developing more heinous weapons of destruction, when two-thirds of the world's population goes to bed hungry every night? I cannot answer these questions which are socio-euthenic, and could be better answered by a social scientist. I can attempt, however, to answer the criticism as to the extent to which Man should probe the unknown. My answer is simply this. I believe that the limits of Man's probing should be defined only by the limits of his imagination. Suppose that Columbus had continued to believe that the world was flat? Or suppose that Paul Erlich, Louis Pasteur, Joseph Lister, Newton, Galileo, Einstein, Fermi or any of the great scientists had ceased to probe? Suppose that each, in his time, had adopted the view that what was then known represented all that was to be known? The answer to these queries is obvious. If we knew enough in the 17th century to have ceased our probing there, we would have had to accept 17th century Public Health standards, for example, today. Need I protract my point further?

Now let me turn to the fundamental question -- does training in science lead to agnosticism? As I have stated at the outset, I cannot give a definitive answer. What I can say is that as a disciple of science, it is my contention that anything which is presented for widespread acceptance, must be supported by the weight of evidence. Otherwise, it is either to be rejected outright, or held in abeyance. This, I think, represents the position of many of us who are engaged in the field of science. We don't know, and not knowing, we cannot either accept or reject. In this sense, therefore, we are agnostic. I must, however, temper the term somewhat, in that it seems to me to be too severe a term to truly describe our position. It is not as though we are playing it safe or adopting a wait and see attitude. Rather, it is that we have not been able to fully evaluate the evidence presented. On the one hand, one cannot investigate any field of science and not be impressed with, indeed amazed by, the orderliness of events. Such order could hardly have been by chance. Yet it is this very order which makes it difficult, if not altogether impossible, for us to accept an anthropomorphic view of God. Can any of us truly say that he can imagine a unique being who can control, at one and the same time, all of the myriad complex functions which occur simultaneously through the universe in a given instant? Theologians will tell you that it is a matter of faith. They will tell you that it is written, that there are temporal things which are beyond Man's capacity to ponder. The scientist adopts the position that the alleged temporal mediation of events has not been proved, and that in the absence of proof, such claims must be held in abeyance. Is this agnosticism?

Perhaps it is but personally, I do not think it is quite that. You see, as I stated earlier, the scientific method permits one to accept something as a working hypothesis, subject of course to its validity being demonstrated, ultimately, by some tangible proof, in order for it to be retained within the framework of what is acceptable as a scientific truth. Thus it is not inconsistent for a scientist to accept, as a working hypothesis, the concept of God. The extent to which he requires proof of the validity of his hypothesis and its persistence, will be largely an individual matter. What is invariant among scientists, however, is that what is accepted as being true, must be true universally or it is not true anywhere. This test is, therefore, a sufficient test to safeguard against inconsistency in the application of the scientific method even to things allegedly temporal. Science must not make exceptions to the rigorous application of this precept, for if it makes an exception in one instance, why not in more than one, or whenever one has a mind to.

There are many arguments for and counter-arguments to the views which I have expressed and I have used a large number of words to say this: I feel that it is inescapable, that as one probes more deeply into the realm of science, one tends to be less positive about anything. One learns to adopt the position which is supported by the greatest weight of evidence, realizing full well that new evidence might well undermine, if not totally destroy, a position which we held formerly.

Thomas F. Massiah, B.Sc.,M.Sc., Ph.D.
Lecturer in Chemistry

ASTRONOMY GOES IN FOR COLOUR

The Astronomy classes this year are being shown for the first time some magnificent lantern slides recently produced in colour photography. These pictures were made possible by a technique developed at the Mount Palomar Observatory, using mainly the 200-inch telescope. It arose, as has so often happened in various fields of science, from what was merely a hunch on the part of a member of the Observatory photographic staff, William Miller. We have always seen faint colours in stars -- the hot blue stars, cool red stars -- but Miller had an idea that much more vivid colouring ought to be revealed in many other celestial objects. He considered that this might be recorded by long exposures through the world's most powerful telescope, using some of the fast-recording colour emulsions recently made available. Those in charge of the crowded schedule of the 200-inch instrument were persuaded to allot time to try out the idea. After two years of experiment Miller perfected a technique resulting in these glowing pictures of nebulae and galaxies. The human eye will never be able to see the vivid colours by direct observation, but the giant telescope has caught them. While the scientific value of the pictures is not immediately apparent, they show for the first time that the astronomical universe is, as the original announcement said, "a region of awesome beauty."

E. Russell Paterson
Assistant Professor of Natural Science

A Report on Scholarships and Bursaries

(submitted by Asst. Dean Flynn, Executive Secretary of the Scholarship Committee)

This is to advise you that the Board of Governors have approved the following recommendations of the Scholarship Committee effective in the Fall of 1963:

1. Entrance Scholarships (Day Division)

Designated to attract students with high scholastic standing, three Kenneth E. Norris Memorial Scholarships will be awarded each year to entering first-year students. Awarded on a competitive basis, each of these scholarships will have a value of $500.00 a year for a total of $2,000.00 through the undergraduate program. At the discretion of the Committee, one award will normally be made in each of the Faculties of Arts, Science, and Commerce. Application forms, a public announcement, and circulation of the High Schools are in preparation at the present time.

(Application deadline is August 15th of each year.)

2. Continuation Scholarships and Bursaries (Day and Evening Divisions)

The University Continuation Scholarship and Bursary program has been doubled in order to provide for significant assistance to worthy students who are in need of financial assistance.

Applicants with scholarship standing will receive a Continuation Scholarship equal to the amount of one-half tuition costs. Students who do not have scholarship standing will receive a Continuation Bursary equal to one-third tuition fees. A total of twenty Continuation Bursaries and Scholarships are granted annually.

3. Scholarship and Bursary Applications

For the convenience of students, and to improve the administration of all scholarships and bursaries under the authority of the Scholarship Committee, the following changes have been inaugurated:

A. Application Date

The application deadline for all scholarships and bursaries under the jurisdiction of the Scholarship Committee will be May 15th instead of the present date of August 15th. This will enable the Committee to announce these awards prior to registration in the Fall. To be eligible, a student must have completed at least five courses at this University by the end of the 1962-63 academic year.

B. Application Forms

A single application form has been developed to cover all of the listed awards and it is presently available from the 3rd floor Receptionist.

It would be most appreciated if members of the faculty would draw our attention to the names of particularly worthy students, and to encourage them to apply for available financial assistance.

An Adventure in Research

Our editor has asked me to write an article on my research project. While I agreed to do this, I was puzzled as to how I could write this in such a way that it would be of general interest, since I can hardly expect people from most other disciplines to be interested in the more technical details. I therefore decided to tell you of a small incident of the kind one cannot plan on, but always hopes for.

Last fall I received, together with Professor H. D. Kirk from McGill, a grant for a three-year study of "The Incidence and Etiology of Psychological Difficulties in Adopted Children". The descriptive phase of this study tries to find out something about the demographic characteristics of the general child population in comparison with those of the population of adopted children. Difficulties are defined rather broadly by us to include anything that comes to the attention of the "helping professions" - from reading and learning difficulties, to minor behavious problems, to psychiatric disturbances, and to juvenile delinquency. In this first phase of the study we also want to establish whether any of these difficulties occur more frequently among adopted children than among all children - a rather tall order.

The second phase of the study is analytic in nature and not dependent on the results of the first phase. Broadly speaking, we are asking: what is the etiology of those difficulties which do occur. In this phase we are trying to test a series of hypotheses; some of which are based on a theoretical framework of our own, as well as some which have been advanced in the literature.

So much for the content of the study. The story I want to tell now concerns a letter which I found myself writing to a member of a zoology department. This story illustrates not only the dysfunctions of sharp separations between disciplines, but also shows that in research as well as in most other endeavours one ought not to discount entirely the importance of sheer luck.

Last January I made a quick one-day trip to Ottawa to talk to people in various government departments in order to see what was available in the way of data from these sources. In the Vital Statistics Branch of the Dominion Bureau of Statistics I was talking to a man who was most interested in my problem and trying hard to help; but he simply had no information which was useful to my project. Almost as an afterthought he asked me whether I knew of the work of Dr. X in Chalk River. I thought he was making polite conversation, since I could not imagine what possible relevance the work of the Atomic Energy of Canada Ltd. could have to my problems. He gave me some reprints and a brief summary. It turns out that Dr. X is a geneticist interested in problems of inheritance, radiation effects, and mutation. (Still not a very promising lead!)

Dr. X's problem was that he wanted to study these problems in a human population. It appears that there are practically no data available which permit such a study of a human population. The vital statistics registration act makes it compulsory to report births, deaths, marriages, and certain diseases associated with childbirth. But these are individual records which do not give family histories which would make it possible to trace inherited characteristics. Dr. X studied the matter and decided that there were certain technical aspects of the vital registration system in Canada which would make it uniquely possible to construct family records from the individual records. He devised a system and tried it out on the records of British Columbia for a five-year period. The details of the system would take too long to describe; suffice it to say that he used a special coding system and a computer to link the individual records into family records. This system of record linkage turned out to work and he got some valuable information from the results.

In studying the reprints, I found that he used not only that part of the vital records which he needed for his purposes, but also kept in the records all of the demographic characteristics which they routinely contained. Now there was no problem in seeing the relevance of this work to my problem: for a limited time and space there now exists a set of records which is unique in that the unit of analysis is the family rather than the individual. I wrote to Dr. X at once and found that he is on leave of absence to a department of zoology in the U.S. But, in due time, I received a delightful answer from him. He says that it would require only a minor reorganization of file sequence to extract information on adopted children and adoptive families. Further, he is only too glad to have someone use the demographic information which he has found no excuse to use in his own work. He will be back this summer and invites me to visit him for further discussion and to work on his data.

To appreciate this story it is important to realize that no such records exist anywhere for a human population. If Dr. X were a social scientist I would have had no excuse for not knowing of his work. As it is, I am extremely unlikely to become aware of his publications; there is little enough time to keep up with the journals in my own field without attempting to read in such esoteric subjects as radiation genetics. Thus, the trip to Ottawa was fruitful beyond all expectations.

Kurt Jonassohn
Assistant Professor
Department of Sociology

March 8, 1963

OSTRY, BERNARD. Research in the Humanities and in the Social Sciences in Canada. Ottawa (The Humanities Research Council and the Social Science Research Council of Canada) 1962.

It is said that we live today in the Affluent Society. How great a proportion of North America's population may without irony be considered members of this highly favoured global minority is perhaps a matter for argument. In recent years, however, the universities and research establishments of Canada have certainly moved out of the shadow of poverty and neglect, and are becoming characteristic institutions (if not always expressions) of the elite in the new society. But what values are our new resources being used to foster?

Mr. Ostry's report helps to answer that question. In the first of what is to be an annual series of surveys, he gives a useful (if somewhat impressionistic) sketch of research activities and their financial support in Arts faculties and institutes from coast to coast. It does not make for cheerful reading. Aid to research in the humanities and social sciences is certainly declining in relation to the increasing expenditure on other forms of research activity, and may even be declining absolutely.

During the five-year period 1955-56 to 1960-61, for instance, the National Research Council's expenditures upon scientific research in universities rose from 3.4 millions to 8.2 millions, and similar expenditures by the Medical Research Council from $85,000 to 2.3 million. Yet in the latter year all federal government agencies together spent only $450,000 on research in the behavioural sciences. On the humanities or those social sciences that were of no direct "use" to them, the government spent nothing.

Of course the Canada Council is supposed to be the Government's agent for this kind of aid. However, as everyone knows, the Council's resources are pitifully inadequate to the demands made upon it, and the Ostry Report shows how the large American foundations and the Nuffield Foundation of Great Britain are quite rightly withdrawing from the Canadian field, in the not unreasonable belief that we are wealthy enough to support our own research projects - if we really want to. Hence, the admirable work of the Canada Council in this field does little more than take up the slack of waning foreign aid.

We academics are entitled to protest such philistine indifference to humane culture, but the Ostry Report gives no Canadian professor reason to feel enlightened or smug. The federal government, after all, doesn't even pretend to be deeply concerned with the pursuit of pure knowledge, but the universities do (Listen to any commencement address).

Yet the Report shows that no Canadian university meets all the reasonable minimum requirements for an institution devoted to the disinterested study of non-utilitarian subjects. Libraries, teaching loads, staff-student ratios, secretarial facilities and sabbatical regulations are all shown to be inappropriate to the needs of creative scholars. Mr. Ostry believes that we the faculties of Canadian universities have been far too tolerant of these obstacles to the pursuit of true excellence. He believes that it is time we demanded what we need to do good work.

There is not time to discuss the various sensible proposals of the Report to the federal government, the two councils and the universities (A significant and perhaps serious omission is any discussion of provincial aid to research). Those who are interested may read for themselves. What should be stressed are the implications of the report for Sir George Williams. If the criteria used by Mr. Ostry were absolute, we should rank with the lowest of the low among Canadian universities. I shall not rehearse the many ways in which we fail to meet his standards - it would be too painful and the details too familiar. But it does us no harm to be reminded of what a long struggle is ahead of us.

Luckily, even in the Affluent Society money can't buy everything. There are wealthy universities which are a disgrace to the academic profession, and poor ones which are its glory. Canadian universities are not notably inferior to American ones, even though their plant and working conditions are often primitive by comparison. Sir George Williams does not rank with the lowest of the low among Canadian universities. But we should not push our luck too far.

Neil Compton
Professor of English

TEACHING ON TELEVISION

I ought to begin by apologizing for the length of this document. It was written at the suggestion of the editor of the Faculty Newsletter, and was intended as a series of notes on some of the unfamiliarities the classroom teacher may expect to run into when he teaches in a television studio. Each note seemed to require another to clarify it, and I let this cumulative process continue on the theory that most of the readers will be adepts in the art of rapid and judicious skipping through circulated memoranda. Those who are not interested in teaching on television can skip most of what follows, and I think that anyone who is interested will gain more from a discussion of practical problems than from a series of generalizations. This discussion is frequently erratic but the editor has his deadline, and signs of haste are in part evidence that his monumental powers of coercion remain unimpaired.

Most of what is said here applies to open-rather than closed-circuit television, and nothing is said about such difficult matters as the proper size of television classes, or the sort of course that can be taught on television, or how television courses can be fitted into the context of a degree program. There are already a fair number of books and pamphlets dealing with this sort of thing.[1] I can speak only on the basis of my particular experience with a particular course - English 253-TV (Shakespeare) - which is being given this year over CBC-TV. I also suspect that any teacher's reaction to teaching on television is highly idiosyncratic; things that I have found difficult may present no problem at all to another lecturer, or in the teaching of another subject. Nothing that I say here necessarily applies to other television situations.

I.

There is an apocryphal story about Robert Benchley, according to which Benchley was once maneuvred into actually writing one of his college exams. The subject was modern American history, and the lecturer had spent some time on the dispute between England and America over the rights to the Atlantic fisheries. The examinees were asked to discuss the 'Fisheries Question' from the point of view of one of the participants. "I propose to discuss this question," Benchley began, "from the point of view of the fish." There is a sense in which the television lecturer is in something like the fish's position. In all the debate that goes on over students' attention spans, the comparative performances of experimental and control classes and so on, not much attention is paid to the peculiarities of his task, although the pamphlets and records of conferences are fairly thickly sown with his requests for more time and/or money. I know of only one document which deals with the specific matters of television presentation and production that affect the teacher, and that is a small mimeographed 'Guide for Television Instructors' circulated to its teachers by Pennsylvania State University, and intended only to accompany instruction by an educational television producer. This lack of practical information about what happens in television studios (as opposed to the endless flow of publications dealing with the administrative organization of television education) is unfortunate, since it seems to me that the greatest single hazard that confronts the television lecturer is his ignorance, and consequently his insecurity, about what is being done to him - about how he is being 'produced'. Because this is an important and neglected aspect of educational television I should like to discuss it in the second section of these notes. But first, perhaps something ought to be said about why the University lecturer need bother to inform himself about television at all.

It seems clear that television will increasingly become a part of our academic way of life. A good many American universities have committed themselves to expansive television programs. Teaching by Television, the Ford Foundation's report on the progress of educational television, lists 113 colleges and universities that offer television courses for credit, and another 240 that give credit for 'Continental Classroom'. These courses range, of course, from closed-circuit operations involving only two or three 'remote' classrooms to such mammoth open-circuit productions as NYU's 'Sunrise Semester' math course which reaches 110,000, or the 'Continental Classroom' physics which is given for credit to 270,000 students across the country.[2]

In Canada, the spread of educational television has been predictably slower.[3] Much of the work has been done at school level, as for example in the 'Master teacher' experiment in the Maritime schools. ('Master teacher' seems to me an unfortunate choice of phrase, and I imagine some of the Master teachers think so, too. A teacher on television is not a 'master' teacher; he is a teacher -- good or possibly not so good -- who has to learn to use television as a medium.) The Canadian universities have now begun to give television courses for credit. Compared to the Americans, they suffer from an initial disadvantage. Most American television courses are handled by studios and stations specially organized for the purpose: either their own campus studios, or educational television stations. The Canadians televise lectures either on commercial stations (as in the case of McMaster and Hamilton's CHCH) or on the CBC (as in the case of the University of Toronto, the University of Montreal, and Sir George). This arrangement is in many ways unfortunate for the universities, and it gives force to the President of the University of Toronto's recent announcement of plans to establish a three-station, microwave-link television system for the Onatrio universities. This is similar to the inter-university networks that have been set up in Texas and Oregon. It is probably the best overall way of organizing university television courses, insofar as it does away with the 'public affairs talk' view of lectures common to non-university stations, and provides the sort of producers, crew, studio, and 'video-libraries' that will make the lecturers' lot a much happier one.

The potential advantages that television offers to the university are fairly obvious. Professor Paden of the University of Illinois has put it in this way: "Television as a means of mass communication for instructional purposes is a relatively new development with revolutionary implications for instruction at all levels. What makes television interesting in the present decade is the juxtaposition in time of a technological innovation of major significance with a potential doubling of the student population in elementary college courses and an inelastic supply of highly qualified college instructors.

Television promises to be a means of reaching students who otherwise might receive no instruction at all, or, at best, instruction which fails to measure up to present standards.[4] From the point of view of student over-population the advantages of television are two: in space (a television class can be far larger than anything that can be accomodated in an auditorium); and in time (a videotaped lecture can be telecast at several different times during the day). The advantages in space are dramatically exemplified in the mammoth registrations for 'Sunrise Semester' and 'Continental Classroom'. But repetition in time is also important; Pennsylvania State repeats its telecast courses through the day, thereby easing its class scheduling problems; the University of Illinois has accumulated a library of over 300 videotaped lectures (presumably in fairly standardized, introductory courses) thus freeing the instructors who would normally be repeating these lectures.

Closed-circuit and open-circuit courses

When people think about televised courses they do not always make a distinction between open- and closed-circuit operations. A large part of university telecasting is done on a closed-circuit, and the best account of this method is the report published by Pennsylvania State on their two-year experiment. In a closed-circuit system a lecturer is televised in a studio or classroom, and his image appears on a screen or on monitor sets in other, 'remote' classrooms. The attempt here is simply to transform the auditorium class lecture into a series of small classroom lectures. As Professor Raudorf pointed out in an address to the Science Faculty, "had television been in existence thirty years ago our colleges and universities would not have introduced large lecture rooms in an attempt to solve their mass education problems; they would have solved them by television." Closed-circuit television simplifies the physical distribution of large bodies of students. "It is possible by means of closed-circuit television," as the UNESCO report says, "to move instruction to students rather than students to instruction, by linking classrooms and even buildings together. This may be one solution to the traffic problem that exists between class periods on a large campus."[5] If closed-circuit lectures originate from a campus studio, rather than a lecture room, they have the added advantage of allowing the instructor and production staff to set up detailed demonstrations that would be impossible in a large classroom. But as it is generally used closed-circuit teaching is not far removed from classroom teaching. This is why many universities give the closed-circuit instruction much less 'released-time' from normal teaching duties than they give to the instructor who videotapes his lecture in a studio for open-circuit telecast. Professor Paden says that "it should be pointed out first that where the television camera merely monitors a regularly scheduled lecture there may be virtually no additional preparation required."[6] The studio-videotape allows the instructor to make much fuller use of the potential of television, and by the same token it increases the amount of time he spends on his lecture. "When professors undertake to tape and save their television lectures, they tend to make them more polished and strive for production standards that exploit the unique potentials of the medium. But making these reinforced lectures involves exhausting work for the professor, and under the dual pressures of teaching and production, they frequently have found that preparing and recording a single set of course lectures, even with a year's full released time, is almost more than they bargained for."[7] There are a number of reasons why an instructor spends more time on an open-circuit, videotaped lecture. It is occasionally said that the same sort of preparation takes place, and is far more extensive and thorough going simply because he is on television. Another and perhaps less fortunate way of putting this is to say that the only time he prepares a lecture with complete adequacy is for television. There is a point here; certainly a lecturer preparing a lecture which may be seen by anyone who chooses in the Channel 6 viewing area is going to be more deliberate about it than if he were going to lecture to a class of twenty-five students. But this view misses the main point, which is that the television lecture is different in kind from the classroom lecture. As one of the reports puts it, "conventional courses cannot be transferred as such to television, where a completely different organization is necessary."[8] There are many and varying estimates as to the extra amount of time needed to prepare a lecture for a television studio, but much of this extra time is made necessary by the exigencies of the medium, not by the need to re-work or polish lecture material. Thus when the Director of Educational Television for the CBC says that in his experience thirty hours of preparation is needed for a half hour of educational television[9] he does not mean that a lecturer needs to spend this much time preparing what he is going to say, but that he does need a great deal of time preparing a video script, working with a studio production unit, and generally translating what he has to say into television terms. If done properly, this does take a great deal of time and work. If the instructor has had no experience in the medium and doesn't understand it properly, a good deal of his time will be wasted. This is more or less what has happened in English 253-TV, and is one of the reasons why that course does not take full advantage of the potential of television. This being the case it is just as well that the English 253-TV tape has not been preserved; the virtues of the course will lie in whatever can be learned from the many mistakes made in it. But to return to the main point, the amount of time allotted to videotaped, studio lectures (an amount which seems excessive to non-television lecturers) by the universities who make them is explained by the nature of videotape itself. To quote Professor Paden again: "The importance of videotape as an instrument for improving the quality of instruction can hardly be overemphasized. The purpose of each lecture can be specified in advance; material can be prepared and criticized by one's colleagues; the videotape can be viewed, edited, and sections remade [cutting and editing was too expensive a process for English 253-TV, which was therefore in effect a live telecast - S.S.L.]; and finally the videotape can be used in the classroom and evaluated. Since videotape relieves the instructor of going through the entire series of lectures each semester, by successively concentrating on small segments of the course, the over-all quality of the presentation can be systematically improved. Even for the seasoned instructor, videotaped instruction is an extremely powerful teacher-training device and a ruthless teacher-disciplining mechanism. In a sense the use of videotape offers the teaching profession for the first time in its history a practical opportunity for actually accumulating capital in teaching."[10]

II.

Most of the difficulties that the television lecturer meets (and that make tiresome listening for his non-television colleagues) arise in the course of studio production. The television viewer is not, as a rule, any more aware of production than he is of the batteries of klieg lights or the pancake make-up on the lecturer's face, which is as it should be, because the moment he becomes aware of production, something has gone wrong. By production I mean everything that has to do with the way in which the lecturer and his material (verbal or visual) is televised, and it is obvious that it is in production that both the limitations and potential of television lecturing lie. And yet, as I suggested earlier, very little of any practical use has been written about it. I should therefore like at this point to describe some of the things that happen in the studio. This section is eminently skippable by anyone not interested in teaching by television, but it may make some things clear for any who are. Those who do read it, and have chanced to see any of the English 253-TV lectures, will not unnaturally conclude that I seem to know more about television production than ever becomes apparent in my lectures, and they will be right. Whatever I know about production I picked up sometime after the actual videotapings began, which is a very inefficient way to do it. It is most important that the lecturer know all about his set, and the various ways in which visual material can be presented (easels, graphics, slides, back-projection, film clips and so on) before he ever begins to prepare his lectures. Finding out after he has begun his lectures is no good, since, in the case of the CBC, all visuals must be budgetted for months before the lectures begin, and any specific chart, graph or picture must be submitted to the graphics department at least six weeks before the lecture in which it occurs is to be taped. (This may be compared with the situation in a studio run by the university - for example at Pennsylvania State, where graphics can be ordered and prepared in three days.)

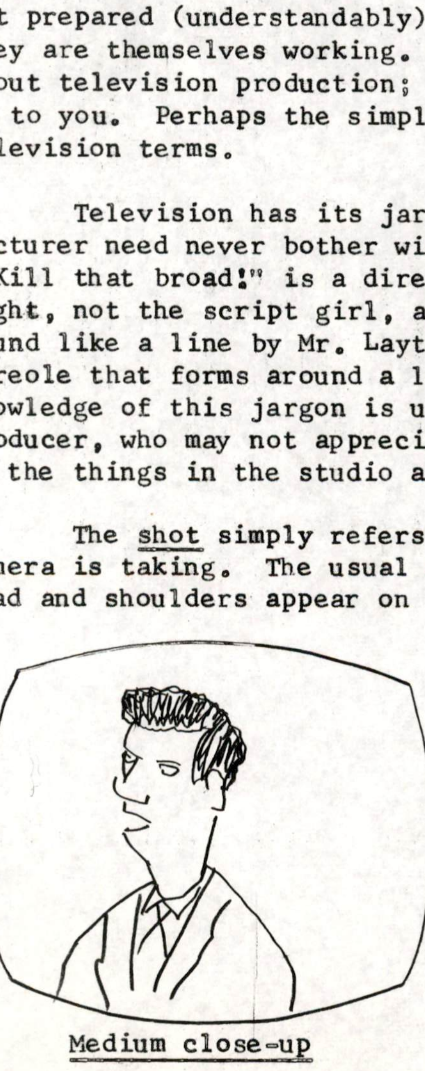
This accounts for the insistence on training programs for television teachers in those institutions which have used television for any time at all. One speaker at the American Council on Education Conference recommended, on the basis of his experience, "a training program of six months to a year... involving exposure to the technical and mechanical aspects of the medium."[11] In the Chicago experiment television teachers were given a preparation period ("the equivalent of eight weeks of full-time work") in which they learned about the studio and is accoutrements, and prepared a series of kinescope segments ranging from five minutes to a full lecture, all of which were run and re-run for "self-evaluation and critique discussion".[12] After this they graduated to closed-circuit lecturing for further marinating in the medium.

Early in their experiment the Chicago people found that "teachers normally arrived for their first trial in the studio convinced that they knew how to teach effectively on television."[13] What the teachers had not taken into account, of course, was the fact that they were entering a new teaching environment which was bound to change and sometimes distort their performance. "The good classroom teacher meeds time to adapt to television. He is surrounded by lights, heat, the movement of cameras, and new and different things to work with. He has two masters: (1) the medium itself; and (2) the people who must operate the medium and direct his performance."[14] One of the real problems here for the lecturer is that the 'people who direct his performance' can also interfere with it. "Television cannot make a poor lecturer better," according to one of the American Council panelists, "but it can certainly make a good lecturer poorer." This is unfortunately very true, and one of the reasons for it that most of the mistakes made by the production crew will appear as the lecturer's mistake. A bad cue from one camera to another will leave the lecturer goggling about stupidly, trying to find the small red light on the output camera; a mistake in a time cue may have him stumbling to finish a lecture in two minutes when he really has six; if the graphics are out of order on the limbo board (which he can't see properly) the viewers will hear him expatiating on an eighteenth century stage setting of Macbeth when they are looking at a twentieth century one of Hamlet. In fifty-two half hours on television these and a good many other things are bound to happen, and none of them are calculated to increase the lecturer's serenity or coherence. He is the person the viewers see, and therefore he is the one that has somehow got derailed.

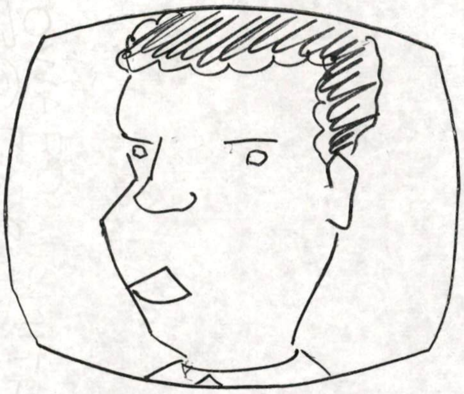
I don't wish to make television lecturing sound difficult and depressing, because it needn't be. But in order to avoid sources of error and uncertainty the lecturer ought to know something about television production. The producer and crew (in non-university studios) are used to dealing with performers who know something about television; and they are not prepared (understandably) to give a short course in the medium while they are themselves working. There is no mystery, nor even much difficulty about television production; the difficulty is in getting someone to explain it to you. Perhaps the simplest explanation is a descriptive glossary of television terms.

Television has its jargon, as does any craft, and most of it the lecturer need never bother with, although he may find some of it intriguing ("Kill that broad!" is a direction to extinguish a large variety of klieg light, not the script girl, and "see the bloom on the blizzard head" may sound like a line by Mr. Layton, but is in fact a reference to the dark aureole that forms around a light blond head on a television screen). Some knowledge of this jargon is useful to the lecturer - not to use on the producer, who may not appreciate it - but in order to understand what some of the things in the studio are, and what is being said about them.

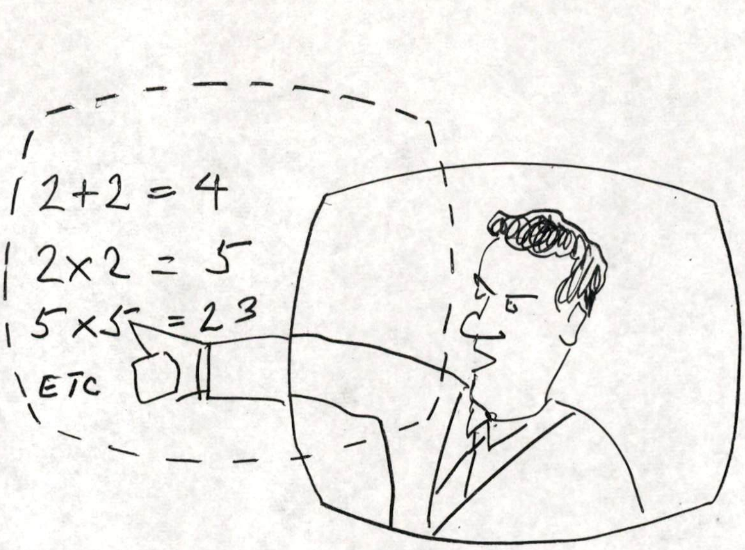
The shot simply refers to the size and angle of picture that the camera is taking. The usual shot is a medium close-up in which the lecturer's head and shoulders appear on the screen. But the producer may vary this with what he calls a "tight shot", in which your face fills large part of the screen. This is a particularly unnerving thing to catch sight of on a monitor, but it also affects what you do and how you move.



Medium close-up



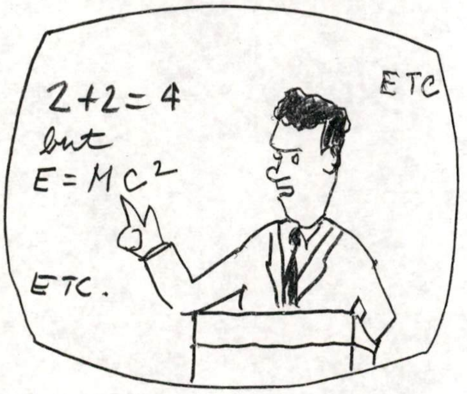
(1)



(2)

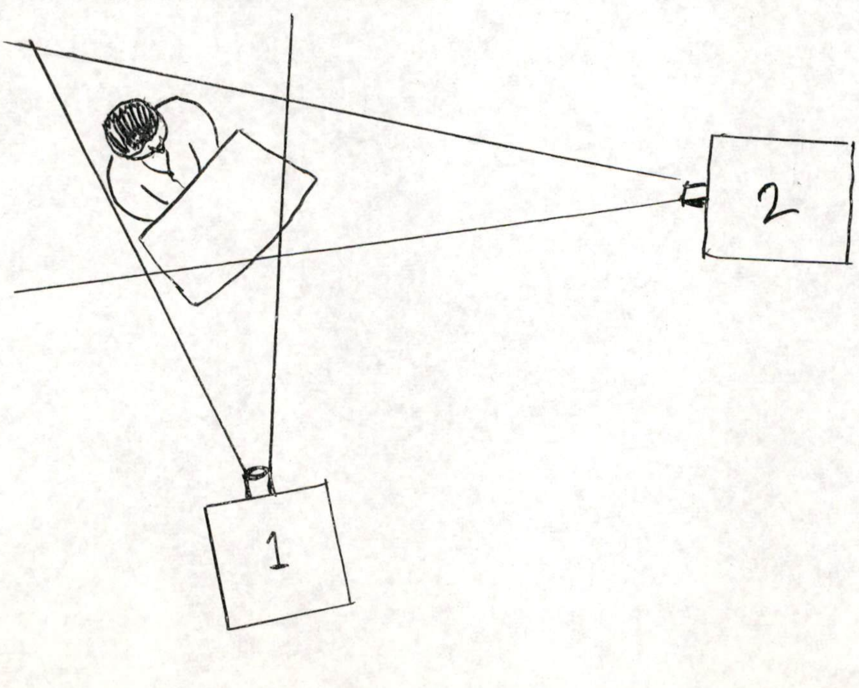
You can see that in the tight shot (1), above, nothing that the lecturer decides to do in the way of illustrative gesture will be visible; and if he wants to make any movement he must somehow insert a cue so that the producer can re-arrange his shot. If he knew he were filling the whole screen he might do this, but as a rule (for reasons explained below) he cannot see the monitor and therefore has no notion what the viewer is seeing. In (2) above the lecturer has decided to return for a moment to a blackboard illustration. But since the shot is a medium-tight one the producer must change it. He can try to pull his camera back, but the figures on the board may be too small for a longer shot. He can try to change to the right shot (the dotted line) but he has no idea how long the lecturer is going to stay with the figures. Cameramen are remarkable at moving their machines about, but a camera is a large, ponderous piece of equipment. No cameraman can be expected to improvise rapidly, particularly when he is not following what is being said; officially he is not allowed to improvise at all. He must wait for the producer's direction on his earphones before he moves. The producer, in his turn, is facing a console of several screens, one for each camera image, and one for his output image. He is continually talking to his floor-manager and cameramen, preparing the shot that is to follow the one he has on the output, listening to his script girl who will be giving him time cues to pass down to the set, and he is generally in no position to accomodate the lecturer's sudden decisions as to movement, blackboard illustration, and so on. For all these reasons, operations that seem to be reasonably simple may go badly astray on the television set.

It ought perhaps to be added here that the producer may have quite a different attitude towards your presentation than you have. A lecture is not a very exciting visual experience, yet the producer's job, as he sees it, is to produce visual interest. Here is a typical quote from a producer's manual: "Photograph your principles so as to give stationary objects the illusion of movement... make graphics do something, and vary eye-interest continually."[15] Too much attention to 'variety of eye interest' will result in the producer' not following the lecture at all, and varying the shot (from one camera to another, or from tight to medium) so that the lecturer has no idea of what is being seen on the screen. Unless the lecturer and producer and cameramen want to spend a great dealt of time in camera rehearsal, it seems to me best to risk visual boredom and rely on medium-long shots from both cameras. The University of Montreal and CBFT in most of their lectures maintain a medium-long shot of this kind:



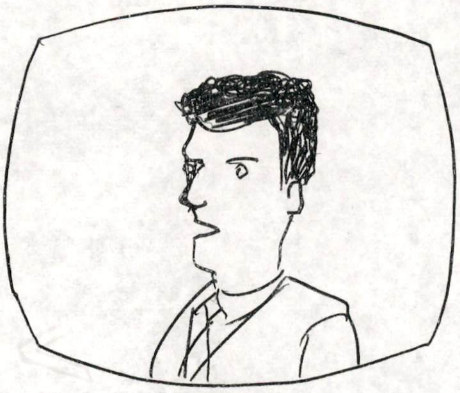
This may be visually dull (although I see no reason why university telecasts ought to set up as models of visual interest) but it has the great virtue, from the lecturer's point of view, of always assuring him of three or four feet of space around him in which he can operate, wave his arms illustratively, move to an from the blackboard, and so on. The sensation of not knowing what sort of shot is being taken, or how large a frame one is being restricted in, produces (in me, at least) a whole series of nervous tics, pencil fiddlings, hand-flutterings, uneasy movements on the stool, and so on which are, in fact, exactly what they look like: efforts to escape from an invisible constriction.

The cut is the process of changing from camera to another. The cut is a visual interruption, and ought ideally to accompany some break in the delivery of the lecture, although this is difficult to arrange. A cut sounds a simple enough operation, but bad cutting can produce some curious effects. Take the following situation, for example, where cameras 1 and 2 are both trained on a lecturer:



Intercutting between these two cameras gives the oscillation on the screen of the two images below: the more rapid the cutting, the more the lecturer resembles a spectator at a slow ping-pong game, as you can see if you cover the images alternately.

CAMERA 1



CAMERA 2

The producer of English 253-TV would not make this error, but producers do make them, as a little critical television watching will show you. I had never imagined that a detail such as camera cutting would interfere with a student's attention, but a few of them have remarked on it. One or two have said that they turn off the picture completely and simply listen, undistracted, but there may be other reasons for this than camera cutting and I see no need to go into them here. The chief importance of camera cutting for the lecturer lies in the business of camera cues.

Camera cues and time cues are all given by the floor-manager, so these terms are best described together. The camera cue signals the lecturer that the producer is changing the output image from one camera to another. His first reaction is to look directly at the new camera, which is a mistake because this is a delayed cue. The lecturer must go off one camera by looking somewhere else - usually down at his notes - and go straight to the new camera when he looks back again. If the lecturer tries to move about at all to an easel or blackboard, the camera changes, and therefore cues, will come more frequently; he ought to be prepared for this, since this is the time when he is trying to get off his stool, untangle his mike cord, and get hold of a pointer or a piece of chalk.

The time cue gives the lecturer the number of minutes to go, and he should arrange these with the script girl. Since the fewer cues the better, I preferred them at ten minutes, five, three, one and "cut throat" ("Get off the air at once!) The time cues always bothered me; I was never able to handle them properly, and I think this has to do with individual idiosyncracies in lecturing. My own practice is to stop when I think I'm finished, no matter what the time is, and certainly with no regard for time segments of a minute or less. There are few experiences more unpleasant than mindlessly verbalizing to fill up an extra minute. Producers and script girls are, however, dedicated to the idea that a twenty-eight minute and thirty second segment must run exactly that long: the lecturer can recite limericks or break into song, so long as he gets the time right. I have often thought that the muffled screams one hears occasionally in CBC corridors might well come from some torture chamber where producers who have allowed their programs to finish with forty seconds or so of 'dead air' are being disciplined. Every lecturer has to arrive at his own compromise between writing his lectures out so completely that timing is not a problem, or getting used to improving the conclusion of what ought to be a five minute argument in two minutes.

Since the floor-manager gives the lecturer all his directions, he is the most important man on the set. While the producer is out of the way in the control booth, the floor-manager is his deputy. Floor-managers are, on the whole, a helpful and accomodating group of people; but, like the crew, they will probably differ from week to week, and each floor manager seems to have a different system for giving cues and organizing his set. After a few costly breakdowns in communication, the lecturer learns to get together with his floor-manager before every session and work out a system of cues. If this sounds too simple a business to merit attention, you must recall that from the lecturer's point of view the set is a glare of lights, with a dim crowd of machines and figures moving about in the background. Cues have got to be precise and distinctive to register at all, and there is a ripe field for ambiguity and misunderstanding. For example, one floor-manager on English 253-TV liked to give his time cues by stretching the relevant number of fingers out underneath the camera lens; the next gave his camera cues by spreading his whole hand out underneath the lens. The result, of course, was that I took what was meant to be a camera cue for a five minute cue. With some rapid editing I was able to scramble incoherently to the end of what I wanted to say, at which point a good deal of wild gesticulating from behind the cameras indicated that the lecture still had six minutes to go. To the obvious question 'Why not relax and look at your watch?' I have no adequate answer, except that watch-glancing is supposed to be a major lapse on television, since it breaks what is called "eye-contact".

If you read very far in any of the documents written about educational television you will come across the term eye-contact, which is one of the qualities of television lecturing that is supposed to provide the intimate relationship between lecturer and student that is lacking in the auditorium class. The Pennsylvania State pamphlet holds that the teacher must look continually and directly at the camera - "a momentary look off camera, a glance at the monitor, another camera, or someone in the studio, may cause a breakdown in this direct contact with the student." I am not entirely convinced of the importance of eye-contact. One does not, in a class room, give a lecture while looking fixedly at one student, nor does the student spend the lecture looking fixedly at the lecturer. But it may be that my real reason for doubting the importance of eye-contact is my own inability to look unwaveringly into the lens for a whole lecture. I bring in the term here because if you lecture on television you will almost inevitably run into producers who try to make you look straight into the camera lens. If you can do that for five minutes and still think about what you are supposed to be saying, you are good at eye-contact.

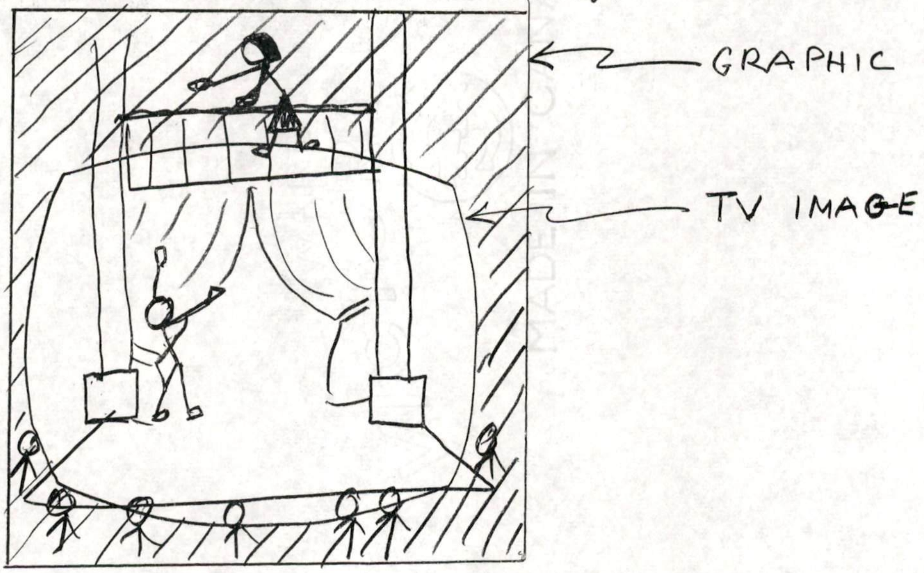
Cueing in the television studio is a two-way process. The lecturer will be continually getting camera and time cues, but he must also cue the producer, particularly when he is going to use visual devices. There are many forms of these, but the most common are the drum (or crawl), back projection, a graphics easel, a graphics board (or limbo board) and that survival from the medieval, or class room, method of instruction, the blackboard.

The drum is just that - a large drum turned by a handle to which may be attached a length of black material. The most familiar use of the drum is in presenting rolling credits, as in the identification of the cast at the end of a play, where the names are affixed to the black material which is then rolled up on the drum in front of a camera. Since the material is black, the viewer never notices it. The drum shot is usually superimposed on a shot from another camera (e.g. the engraving of Shakespeare in English 253-TV), giving the effect of disembodied lettering moving in front of another image. I should think that this kind of superimposition might be very useful in fixing a difficult or technical term in the mind of the student. One camera may be taking the lecturer in the midst of a demonstration, while another moves to the drum and superimposes "polymerisation" or "succinylsulphathiazole", or whatever is needed, at the bottom of the screen. If you teach a subject in which words of this sort occur you ought to make yourself familiar with the drum, and even more familiar with the man who turns it, since synchronizing what you say with what he rolls on the screen is all important. This is not easy, since the man who rolls the drum is forty feet away from you, hidden by cameras and tripods, and is usually too engrossed in his reading of 'Allo Police' to pick up verbal cues containing the word "succinylsulphathiazole."

Attempts to use the drum in English 253-TV failed because i) not enough legible print could be put on the screen at once for our purposes, and ii) the lecturer must have the monitor very near him, and perfect accord with the drum operator to make this kind of superimposition work properly.

Back projection involves a large screen on which a slide can be projected from behind. This has the advantage of allowing the lecturer to work directly in front of the screen with a pointer, and ought to be ideal for simple maps and charts. However the image used on back projection ought to be clear, and with good definition, since it will be blown up to many times its usual size.

Graphics are large, heavily backed enlargements of drawings or pictures. The lecturer may work with these on a graphics easel, in which case he has the advantage of handling them himself; the disadvantage here is usually the distance between the lecturer's desk and the easel, since the cameras must do quite a lot of backing and filling to get him there. The usual method of displaying graphics is to put them up on a graphics or limbo board on the other side of the studio from the lecturer. One camera stays on him, and the other moves across to the board, altering the shots as the cameraman gets the producer's directions. Here again the lecturer ought to have a monitor near him and he must be very careful to have the graphics mounted in proper sequence. Neither producer nor cameraman is going to trouble much about distinguishing between, say, photographs of two different cathedrals, particularly when the enlargements of these have achieved the same oatmeal blend of grey-white. One common source of error with graphics arises from the fact that the cameraman will instinctively dolly in close enough to fill the whole of his view-finder with the picture. The dimensions of the view-finder are proportionately the same as those of the television screen, but not necessarily of the graphic. Thus you may be talking about a graphic which illustrates the Elizabethan's symbolic use of the elevated upper stage in Juliet's balcony scene, when the viewer can see neither Juliet nor her balcony:



Since this graphic is taller than it is wide, the cameraman has left the top out in order to fill his screen. This mistake sounds so crude as to be easily avoidable, but it is the result of three things which are often found in combination in the production of a lecture: i) the lecturer cannot see the monitor properly, ii) the producer is busy directing the cameraman to the shot of the next graphic, and doesn't realize the lecturer is talking about something that is not on camera - the more technical the discussion the more this is likely to happen, and iii) the lecturer has missed this possible error in camera rehearsal simply because he never thought the problem would arise, and if he is not used to television, this will be the case in most of his errors.

The blackboard seems like an old friend in a television studio, but it has its pitfalls. The most common of these has to do with what television people call the aspect ratio, which simply refers to the fact that a television screen is three units high and four wide. If you want the viewer to watch what you write for any longer than it takes you to write it, you must confine your writing to an area of these dimensions. Once you know this, the temptation is to squeeze more writing into this area than is legible to the viewer. Roughly speaking, letters and figures must not be less than 1/10 the height of the area covered by the shot. My most common mistake here (and I must add that it was partly the fault of the blackboard itself, which was the cheapest and most flexible money could buy) was to write fairly large, and then move back and forth from one area of writing to another. The camera can barely follow this sort of thing, and the viewer almost certainly can't.

Before going on to describe some of the other technical terms and paraphernalia of the studio, I would like to add two general qualifications concerning the use of visual material on television.

The first has to do with the question of how much visual aids reinforce the students' learning process. The lecturer, naturally anxious to take advantage of what the camera can do, may surfeit the viewers with too many visuals. (This was not a problem with English 253-TV since there is a limit to the number of times one can usefully show a model of the Globe theatre, or a reproduction of a Shakespearean staging; what the course did need was actors or film clips, which are expensive). In a test performed at New York University a class was exposed to a semester in which only the lecturer, his desk and his blackboard appeared; in the next semester they were given "a wide variety of visuals... ranging through charts, graphs, maps, models, photographs, film clip and dramatisations...the students were overwhelmingly of the opinion that the use of visuals added not only to the interest of the course, but also to the amount they learned."[16] The students were wrong. The tests then given them established that "visual production did not increase learning. In fact learning, as measured by the tests used, was somewhat less, a difference significant on the five per cent level."

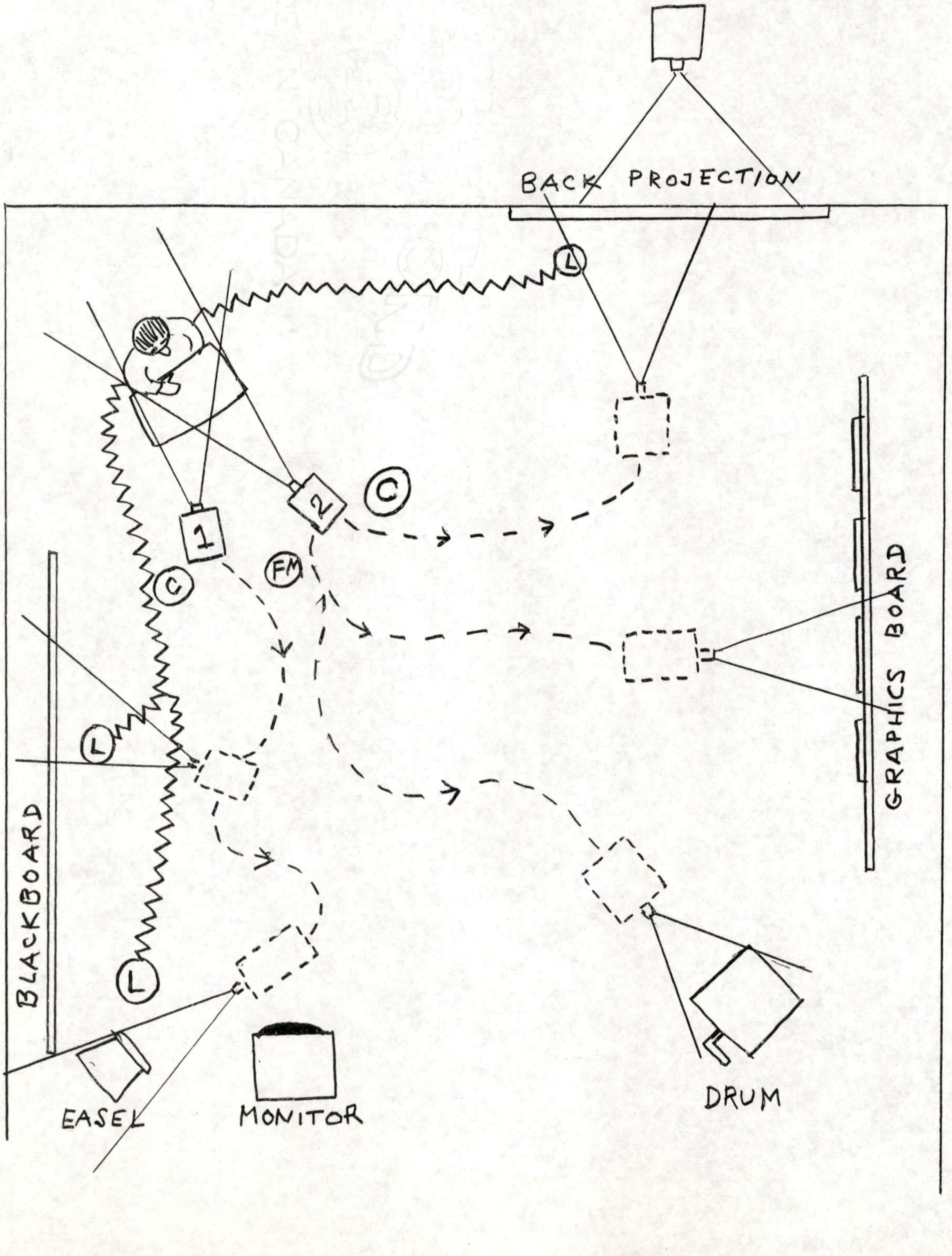
There are various reasons for this phenomenon, but the one which interests me is not mentioned by the test administrators, and it is the second qualification to the general use of visuals. The constant use of visuals on a badly designed set means a constant cueing and counter-cueing between lecturer, floor manager and producer. What the lecturer may gain in visual content he may lose in the strain of this kind of organization and presentation.

The set is the area in which the lecturer, his graphics, his demonstrations and anything else to be photographed is placed. The set conditions everything he does, which is why its layout is so important. The shortest way to indicate this is to attempt a crude drawing of a set, which I have done below. This is the set of English 253-TV. It was not an area originally intended for television production (having been, in a previous incarnation, the swimming pool of the old YWCA) and it has a good many failings. The set itself was designed by someone who was not concerned with the special problems of the lecturer, for someone who knew nothing about the demands of television. Its main drawbacks are these:

1) If the lecturer wants to get to the back projection screen, or the

The set

Zigzag line is lecturer's moves. Dotted lines are camera moves. L = Lecturer, C = cameramen, and FM = floor manager. But there are also on the set an announcer, a man to work the drum, a man at the back projection screen, and other unidentified figures. So that if the lecturer were to use the set at its full potential, there would be a good deal of movement and counter movement, all of it arranged before hand, rehearsed, and cued during the lecture.



blackboard, or the easel he has to walk at least ten feet. To do this he has to cue the producer, and usually two cameras will be involved in the move. This means that he cannot go, say, directly from the blackboard to an image on the graphics board because there will be no camera available there. If he does want a graphic shown he must be fairly forehanded with his cue. This produces fragmented delivery such as "...so much for the Globe theatre; in a moment I want to show you a reproduction of our own Stratford theatre; but before doing that let us spend a few moments on the subject of..." The subject doesn't really matter, but the 'few moments' allows a camera to be turned around and rolled over to the graphics board.

2) If he is talking about a limbo shot on the graphics board, or on the drum he cannot see it properly from where he is.

3) Neither can he see it where he is meant so see it, on the monitor, because that has had to be relegated to the other end of the studio to get out of the way of camera movement. It is on the other side of the light barrier and is generally concealed by cameras, cameramen, the floor manager, and other odd bodies that ebb and flow around the set. (The number of people on a set is surprising. In general, this is a result of union rules. The man who pins up the graphics cannot turn the drum, the drum man must not move a light cable, and so on).

Because of the importance of the set one of the first things the television lecturer ought to do is to make sure he has a hand in designing it. If he knows what he wants to do, and knows what is possible in a studio, he can avoid all these problems. My own suggestions for a set are these: use a long desk and an armless swivel chair and not a lectern-stool arrangement; make certain the blackboard and easel are within immediate reach behind you and quell any aestheticians who want to put you in front of curtains, arches or other 'visually interesting' devices. (I am all for visual interest, but no backdrop is going to be interesting for fifty-two half hours, and nothing ought to take priority over the lecturer's comfort and maneuvrability.) Insist on either a clear view of the graphics board, or an unobstructed, easily visible monitor. Try to arrange for one of the cameras to have a zoom lens which can, without moving, come in for detailed shots of drawings or charts. If you can make sure of these matters, the rest of the set ought to take care of itself.

One of the most trying features of giving a television lecture is the camera run through, or rehearsal, but you will see that it is vital if the lecturer proposes moving about, or using much visual material. He may be absolutely clear about what it is he is going to do and show, but it must all be explained to and run through with the producer, script girl, floor-manager, cameramen and, if necessary, the back screen projection operator and the drum man. This is why a script is necessary, with the video column on the left and the audio (the lecture) on the right. The lecture may be in fragmentary note form (and indeed this may be an advantage in case of some mishap, and the improvisation it makes necessary) but the video must be precise and clear.

English 253-TV was reduced to as simple - not to say impoverished - a form as possible. Nothing of any complexity was attempted, and in all I used only about twenty graphics. Yet we still arrived on the set at 9 a.m. in order to start videotaping at 11:30. Much of this time was spent in technological matters beyond my ken, but there wasl also a required camera run through. This presents a problem to the lecturer. If he does give his lecture (as he is meant to do in order that matters of timing, lighting, cueing and so on can be dealt with) he finally arrives at the indignity of make-up having spent a couple of hours hanging about, having said what he had to say, and being not a little disenchanted with the whole business. One of the results of this is that the rehearsal turns out to have been a reasonably adequate lecture, while the lecture itself is a wooden performance. I partially solved this problem by finally arranging with the producer to do a briefer version of the rehearsal with the lecture content reduced to truncated, undeveloped comments. I don't know whether anyone else found the lectures any more interesting after this, but I did, and it was a relief.

There are other points that might be made about television production but this expanded glossary is already far too lengthy. My main point will be obvious to anyone who has got this far, but I should like to make it once more. Most of the television lecturer's errors arise through ignorance of production. Provided he doesn't mind the kind of exposure involved (which is another matter), any lecturer can lecture on television. However he can only use the medium properly if he is given the close and continual co-operation of the production unit, and given it well before his course begins. This may not be the main reason for the establishment of university television studios and educational stations, but it is the vital one as far as the lecturer is concerned.

One final note. A television course involves production in the university as well as in the studio. In many ways more must be done for the television student than for the classroom student, if only to make him feel that he is connected to the university by something other than a picture tube. In English 253-TV, for example, lecture outlines, bibliographies, questionnaires, notes on examinations and term-papers, and 150-odd pages of selected Shakespearean criticism had to be typed and sent out at intervals to some 90 credit students and 430 non-credit subscribers. Assistant Dean O'Brien envisioned the difficulties involved in this, and solved them. His direction and advice, and Miss Rosyln Muer's patience and hard work made it certain that at least one aspect of the production of a television course worked as planned.

Notes

1. The ones that I have used in the quotations which follow are J.C. *Adams at. al.* (eds.) *College Teaching by Television*, American Council on Education, 1958; H.R. Cassirer, *Television Teaching Today*, UNESCO, 1960; D.W. Paden, *The Teaching of Economics by Television*, University of Illinois offprint, 1962; J.W. Meaney, *Televised College Courses*, Ford Foundation, 1962; C.R. Carpenter, *et. al.* (eds.) *An Investigation of Closed Circuit Television*, Pennsylvania State University, 1958; C.G. Erickson, *Chicago's TV College*, Chicago City Junior College, 1960; W. Hodapp, *The Television Manual*, Visual Art Books, 1953.

   In the main these books are concerned with the administration of television education, or with testing and measuring students' performance. Hodapp's *Manual* is intended for the producer, but unfortunately has almost nothing to say about educational television.

2. Adams, *Teaching by Television*.
3. Cassirer, *Television Teaching Today*.
4. Paden, *The Teaching of Economics by Television*.
5. Cassirer, *op. cit.*
6. Paden, *op. cit.*
7. Meaney, *Televised College Courses*.
8. Carpenter, *Investigation*.
9. Television Committee meeting, Sir George Williams, October 26, 1961.
10. Paden, *op. cit.*
11. Adams, *op. cit.*
12. Erickson, *Chicago's TV College*.
13. *Ibid.*
14. Adams, *op. cit.*
15. Hodapp, *Manual*.
16. Adams, *op. cit.*

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